

of this little craft there can be no question. Of its economy it is premature to speak. It is, however, greatly in favour of electric navigation, that such machinery may be both lighter and more compact than that of steam-engines of corresponding power; that the noise and vibration is very greatly reduced; and that, lastly, there is a complete absence of the nuisance of smoke, which appears to be inseparable from steam navigation.

SILVANUS P. THOMPSON

NOTES

AT the sitting of October 2 of the Academy of Sciences, M. Dumas delivered an address on his friend, Prof. Wöehler, of Göttingen, one of the eight Foreign Associates of the French Academy, whose death had been announced by telegram. He also gave the list of the eight missions sent by the French Government to observe the transit of Venus. The total expense charged against the national exchequer is estimated at 1,200,000 francs.

PROF. MOSELEY, who is conducting the researches which the Cardiff Naturalists' Society is making with regard to the fisheries in the sea beyond Lundy Island and the mouth of the Bristol Channel, has been successful in obtaining a specimen of "*Arnoglossus Lophotes*," a *Pleuronectid* with the anterior rays of the dorsal fin curiously elongated, hitherto known only from two dried skins in the Couch collection, the locality of which was uncertain. This specimen, which is now in the British Museum, establishes the validity of Dr. Günther's classification of this fish as a distinct British species.

AN excavation for geological purposes was made in the New Forest during the last fortnight of September by Mr. J. W. Elwes of Otterbourn, and Mr. T. W. Shore of Southampton, who obtained special permission for this purpose. A considerable area of the Brockenhurst bed was exposed by the removal of about twelve feet of overlying strata near the railway cutting which yielded such interesting specimens forty years ago. More than a thousand good specimens were obtained on the present occasion, comprising seventy species of molluscs and some corals. The work was directed by Mr. Keeping, of the Woodwardian Museum, Cambridge.

AMONG the special features of the Munich Electrical Exhibition is a telephone transmitting thither pieces of music performed at Oberammergau, which is about 63 miles distant; also a giant telephone, which transmits concert pieces performed in the English Café, so as to be audible to the whole of an audience in a large hall at the Palace. A special interest also attaches to the transmission of power by a single wire from the coal-mines of Miesbach, about 37 miles distant, as the possibility of utilising the heat of coal at a distance without transport of the coal is concerned.

IT has been ascertained that the first experiment with air balloons was made by Montgolfier the elder, at Avignon, when he was a resident in this city in the month of November, 1782. He sent up in his room a parallelopiped of canvas, of which the measurement was 40 cubic feet, and which had been heated by burning paper inside. The room is still in existence, in a house in front of which the Municipality have placed a commemorative inscription. The window fronting the street is adorned with an iron balcony, at both ends of which a small gilt balloon has been placed. The anniversary will be celebrated in Paris by a banquet given by the Academy of Aërostation, and very probably a local celebration will take place in Avignon.

ACTIVE preparations are being made for an electrical and gas exhibition, to be opened at the Crystal Palace on October 24.

A WORK on South African Butterflies—"A Monograph of the Extra-Tropical Species," by Mr. Roland Trimen—is announced

by Messrs. Trübner. It will be much more than a new edition of the author's former work; the plates will be entirely new.

WE are asked to state that an article by Dr. James Croll, F.R.S., entitled "Evolution by Force Impossible; a New Argument for Theism," written before his recent illness, will shortly appear in one of the quarterlies.

UNDER the title of "Boats of all Nations, drawn from Nature," Mr. G. H. Andrews proposes to publish a work in large folio, illustrative and descriptive of the origin, history, and peculiar characteristics of the smaller craft of Great Britain, Norway, Denmark, Hanover, Holland, Belgium, Spain, Italy, Greece, Turkey, Asia Minor, and North America. The work will be illustrated by thirty facsimile copies of the original drawings and many sketches of details. The interest and utility of such a work are evident, and to judge from the specimen before us Mr. Andrews is likely to do the subject justice.

IN the *Revista da Sociedade de Instrução do Porto*, Prof. Oliveira regularly continues his Catalogue of Portuguese Insects; in the current number it is carried to the end of *Bembidium* in the *Coleoptera*. In this same number is what appears to be a valuable contribution to botanical bibliography, viz. a "Review of the Hepaticological Works of the European Flora published since the appearance of the Synopsis Hepaticarum," printed in English. The author is P. Stephani, who dates from Leipzig.

IN *Natural History Notes*, a series of articles on "Plant Symbolism, as connected with the Early History of Mankind," by S. Marshall, F.R.Hist.S., is being published.

WE have received from the Bristol Museum and Library the Syllabus of the usual course of lectures on scientific and literary subjects, to be delivered in the Lecture Theatre, on Tuesday evenings during the winter. It is as well arranged as in previous years.

IN reference to our correspondence on the aurora we may say that Mr. E. J. Stone, director of the Radcliffe Observatory at Oxford, telegraphed to the *Times* on Monday night:—"An aurora has been visible this evening, extending over a large portion of the sky. It appeared in bright patches towards the south, which were continually changing. The spectrum was linear."

AT her country house in Sussex, Lady Dorothy Nevill, so well known for her active interest in natural history, has two pairs of choughs which are allowed full liberty. They fly about the grounds, but are quite tame, and come to a window or into a room to be fed. One pair has taken to a small tower on the roof of the house as a roosting place, and prevents the other pair, which has to roost in a shed, from approaching it. This year the pair built a nest on the top of the wall of the tower in a corner under the roof and laid eggs, but unfortunately failed to hatch them. Although the chough is familiarly known as a bird readily tamed, it has apparently not been observed to nest in the domestic condition before. It is hoped the birds may rear a brood next year in the tower. The nest they made is an extremely neat one, deep and secure, and lined with hair and wool. It is curious that the one pair should drive the other away from the tower, where there is plenty of room for several nests. The pairs keep apart all day, and seem to lose, when thus domesticated, their natural gregarious instincts.

SHOCKS of earthquake occurred at St. Louis and parts of Illinois and Indiana on September 27.

ADVICES from Montevideo announce the arrival there of the French Venus Transit expedition. Part will observe the transit at Carmen de Patagones, and another party will go to Santa Cruz. The Brazilian astronomers will observe the transit of Venus from four stations, viz. one at Rio Janeiro, one at Pernambuco, one in the West Indies, and one about Cape Horn.

ACCORDING to the Report of the Government Central Museum at Madras for the year 1881-82, by Surgeon-Major Bidie, the number of visitors was 211,246, and therefore 37,348 in excess of the attendance in the previous year, and 23,051 above the average of the preceding five years. Of the visitors, 40·17 per cent. were women and girls, and 59·82 men and boys; the corresponding rates in 1880-81 having been 39·36 and 60·63. There was thus a slight increase in the number of female visitors on the days on which the Museum was open to all classes. As in former years, the building was cleared of males, and reserved exclusively for native ladies on the afternoon of the first Saturday of each month, but on these occasions the average daily attendance was but 37 against 114 in the previous year. It is difficult to explain this decline, in the face of the anxiety expressed by native gentlemen for extended means of intellectual culture and amusement for the ladies of their families. In some cases it was evidently considered undignified to visit the Museum when other ladies were also allowed to attend, as I had various importunate requests to have the building specially opened for a single family on Sunday, which I was obliged to refuse. All visitors before leaving the lobby are required to write their names in the door-book, or if unable to sign, their numbers are counted. During the year 26·45 per cent. of the total visitors, against 27·77 per cent. in 1880-81, entered their names in the book, and 73·54 per cent. professed their inability to write. In looking at these figures as a gauge of popular education, it has to be pointed out that in many cases one member of a family or party signs for the whole, and that a small proportion consists of children too young too be able to write. As stated last year, a large number of the more intelligent ordinary visitors pick up scraps of useful knowledge as they pass through the rooms, and may come for the express purpose of acquiring information. As a whole the Museum is perhaps the most popular public institution in Madras, and there can be no doubt that its popularity and utility will increase as the education of the lower classes advance. Tables B and C in appendix show the monthly attendance and other results as regards visitors. The report contains a list of the numerous additions in all departments, made to the Museum during the year.

THE mucous membrane of the larynx is known to be extremely sensitive, so that, when touched, violent reflex movements are produced, the glottis contracting spasmodically, and the whole larynx rising forcibly. M. Brown Séquard has lately made the interesting observation (*Comptes Rendus*) that complete local anæsthesia may be obtained in the larynx by directing on the upper part of that organ (through an incision at the back of the animal's mouth), a rapid current of carbonic acid, for fifteen seconds to two or three minutes. It becomes possible to introduce a tube and even a finger (in the case of a large dog) into the cavity of the larynx, and to turn it about without producing reaction. Chloroform vapour gives the same effect, but the other gas is preferred. There is some irritation at the outset. The local anæsthesia, which is accompanied by incomplete general anæsthesia, lasts several minutes (two to eight) after stopping the current. The experiment was repeated several times, at intervals, on the same animal, and no evil results were apparent. M. Brown Séquard proposes to experiment on the human subject by introducing carbonic acid into the larynx by the mouth or nostrils.

It has been recently observed by Prof. Feichtinger of Munich (*Polyt. Jour.*) that of a number of different kinds of writing and printing paper examined, all those kinds that had been sized with resin had a more or less acid reaction, while this property was never met with in paper with animal sizing. (Paper can be easily tested in this respect by placing moistened blue litmus paper between folds of it.) The acid reaction was found

to be due to free sulphuric acid, and it is thought probable that in the use of alum, in resin-sizing, free sulphuric acid is formed in the mass of paper, and remains there. The durability of a paper must undoubtedly be injured by presence of free sulphuric acid. Some of the papers with a strong acid reaction were kept fourteen days in a water bath, which was heated only by day, and they became quite brittle. The acid also acts prejudicially by gradually destroying the black colour of writing on the paper, especially in damp places.

M. GAUTHIER VILLARS has just published a translation of M. Cully's "Handbook of Practical Telegraphy," by Mr. Henry Berger and Paul Bardonnant, of the French Postal Telegraphic Service. This translation contains some useful supplements on the peculiarities of French telegraphy and the pneumatical service as established in Paris.

WE have received the *Proceedings* of the Norwich Geological Society for 1880-81, together with the anniversary address of the president, Mr. J. H. Blake. The former contains several good papers on local geology.

A USEFUL "Table Générale et Systematique des Matières" contained in the first fifty-six volumes (1829-81) of the *Bulletin* of the Imperial Society of Naturalists of Moscow, has been prepared by M. E. Ballion, and published at Moscow by Archipoff and Co.

MR. R. ANDERSON is preparing for publication the papers read by him at the British Association, on Lightning Conductors.

THERE are now 375 naphtha wells on the Apsheron peninsula of the Caspian, their aggregate yield being 9,600,000 cwts. per year.

THE additions to the Zoological Society's Gardens during the past week include two Macaque Monkeys (*Macacus cynomolgus* ♂ ♀) from India, presented by Mr. A. Fitch; two Macaque Monkeys (*Macacus cynomolgus* ♂ ♀) from India, presented by Mr. L. Bennett; a Macaque Monkey (*Macacus cynomolgus* ♂) from India, presented by Mrs. Paris; a Nisnas Monkey (*Cercoptes pyrrhonotus* ♂) from Nubia, presented by Mrs. F. Dixon; a Glutton (*Gulo luscus*) from Russia, presented by General Astashoff; a Hairy Armadillo (*Dasyurus villosus*) from South America, presented by Mr. F. R. Warre; four Barbary Mice (*Mus barbarus*) from Barbary, presented by M. Pichot; a Blue and Yellow Macaw (*Ara ararauna*) from South America, presented by Mrs. Attenborough; two Common Waxbills (*Estrela cinerea*) from West Africa, presented by Miss E. à Court; six Florida Tortoises (*Testudo polyphemus*) from Florida, presented by Mr. G. E. Manigault; eight — Lemurs (sp. inc.) from Madagascar, deposited; two Malabar Squirrels (*Sciurus maximus*) from South India, a Violaceous Plantain Cutter (*Musophaga violacea*) from West Africa, a Greenland Falcon (*Falco candicans*) from Greenland, a Razor-billed Curassow (*Mitua tuberosa*), a Crested Curassow (*Crax alector*) from Guiana, three Elliot's Pheasants (*Phasianus ellioti* ♂ ♀ ♀) from Ningpo, purchased; a Black-faced Spider Monkey (*Ateles ater*) from East Peru, an Eland (*Oreos canna* ♀) from South Africa, received on approval.

BIOLOGICAL NOTES

ON A NEW GENUS OF CRYPTOPHYCEÆ.—A freshwater algæ recently discovered in Brazil, belonging to the group of the Stigonemæ, has been described by Drs. E. Bornet and A. Grunow, under the name of *Mazæa rivularioides*. This algæ, remarkable in various ways, externally resembles *Rivularia plicata*, Harv., its fronds rounded, more or less irregularly knobby, attain to a diameter of about twenty-five millimetres, at first solid and somewhat firm; later they become hollow and